What is claimed is:

1. A control station for two-way satellite communication, comprising:

an RF section for transmitting a broadcast signal and receiving a return channel from a remoter user; and

a return channel subsystem including a return channel controller to process return channel information and set a user bandwidth in the return channel.

2. The control station of claim 1, wherein the return channel subsystem further includes a burst channel demodulator to demodulate the return channel information.

3. The control station of claim 2, wherein the return channel controller controls the burst channel demodulator.

4. The control station of claim 2, wherein the return channel controller dedicates the burst channel demodulator to the remote user based on a bandwidth allocation request provided by the return channel information.

5. The control station of claim 1, wherein the return channel controller sets the user bandwidth of the return channel by evaluating a user backlog indicator provided by the remote user in a return channel message.

6. The control station of claim 5, wherein the return channel message is an ALOHA burst message.

7. The control station of claim 6, wherein the ALOHA burst message contains a bandwidth allocation request.

8. The control station of claim 7, wherein the return channel controller assigns the remote user periodic bandwidth in response to the bandwidth allocation request.

9. The control station of claim 6, wherein the ALOHA burst message contains an information packet of a predetermined slot size.

10. The control station of claim 5, wherein the return channel controller allocates bandwidth if the user backlog indicator is greater than a threshold value.

11. The control station of claim 1, wherein the return channel controller further assigns a frequency of the return channel.

12. The control station of claim 11, wherein the return channel controller assigns the frequency of the return channel through an inroute assignment packet provided to the remote user through the broadcast signal.

13. The control station of claim 11, wherein the return channel controller changes the frequency of the return channel from a first frequency to a second frequency, said first and second frequencies being within a first return channel group and a second return channel group, respectively.

14. The control station of claim 1, wherein the return channel controller changes a frequency of the return channel.

15. The control station of claim 14, wherein the return channel controller changes the frequency of the return channel from a first frequency to a second frequency, said first and second frequencies each being within a same return channel group.

16. The control station of claim 1, wherein the broadcast signal is an asynchronous DVB transport stream.

17. The control station of claim 1, wherein the return channel information is provided by a TDMA signal.

18. The control station of claim 1, wherein the return channel controller allocates a stream access return channel to the remote user based on a bandwidth allocation request provided by the return channel information.

19. The control station of claim 18, wherein the return channel controller allocates a dedicated frequency to the remote user.

20. The control station of claim 18, wherein the return channel controller changes an assigned frequency of the remote user.

21. The control station of claim 1, wherein the return channel controller sets the user bandwidth of the return channel by providing a bandwidth allocation packet to the remote user through the broadcast signal.

22. The control station of claim 1, wherein the return channel controller assigns the frequency of the return channel by evaluating a

user backlog indicator provided by the remote user in a return channel message.

23. The control station of claim 1, wherein the RF section receives a plurality of return channels from a plurality of remote users, and wherein said return channel subsystem processes return channel information from the plurality of return channels and sets respective user bandwidths in each of the plurality of return channels.

24. The control station of claim 23, wherein a subset of the plurality of return channels are configured to support ALOHA burst transmissions.

25. The control station of claim 23, wherein the return channel subsystem further includes a plurality of burst channel demodulators each assigned to an associated one of the plurality of return channels to demodulate respective return channel information.

26. The control station of claim 23, wherein the return channel controller assigns bandwidth to each of the plurality of return channels based upon a predicted traffic load.

27. The control station of claim 23, wherein the return channel controller assigns bandwidth to a portion of the plurality of return channels based upon a predicted traffic loading, and assigns bandwidth for at least one of the plurality of return channels based upon a bandwidth allocation request.

28. The control station of claim 23, wherein the return channel controller provides a load status of a plurality of return channel groups

and a load status of the plurality of return channels through an inroute group definition packet provided to the remote user through the broadcast signal.

29. A transceiver for transmitting a frame synchronized message to a control node, comprising:

a receiver which detects a control node timing message in a received broadcast signal;

a timing recovery section which uses the control node timing message to determine a transmit frame start time;

a message buffer to store an outgoing user message; and

a transmitter adapted to uplink the outgoing user message on a transmit frequency during an assigned period after the transmit frame start time, said transmit frequency being determined by a first inroute group definition packet received in the broadcast signal, wherein said first inroute group definition packet is associated with a first return channel group.

30. The transceiver of claim 29, further comprising a processor which provides a traffic backlog indicator included in the outgoing user message.

31. The transceiver of claim 29, wherein the transmit frequency is in the first return channel group.

32. The transceiver of claim 31, wherein the transmit frequency is changed to a different transmit frequency in the first return channel group based on the first inroute group definition packet received in the broadcast signal.

33. The transceiver of claim 31, wherein the receiver receives a second inroute group definition packet in the broadcast signal and the transmit frequency is changed to a different transmit frequency in a second return channel group based on the second inroute group definition packet.

34. The transceiver of claim 33, wherein the receiver monitors both the first and second inroute group definition packets in the broadcast signal after uplink bandwidth has been allocated by the control node.

35. The transceiver of claim 33, wherein the transmit frequency is changed a predetermined number of frames after the receiver receives the second inroute group definition packet.

36. The transceiver of claim 31, wherein the transmit frequency is changed to a different transmit frequency in a second return channel group using a random weighting based on a return channel group load factor.

37. The transceiver of claim 29, wherein the assigned period includes at least one TDMA slot after the transmit frame start time.

38. The transceiver of claim 37, wherein the assigned period is determined by a bandwidth allocation packet received in the broadcast signal.

39. The transceiver of claim 37, wherein the bandwidth allocation packet allocates a stream bandwidth wherein an entirety of TDMA slots in a message frame are dedicated to the outgoing user message.

40. The transceiver of claim 29, wherein the assigned period is determined by a predicted traffic load established by the control node.

41. The transceiver of claim 29, wherein the received broadcast signal is an asynchronous DVB transport stream.

42. The transceiver of claim 29, wherein the receiver monitors a plurality of inroute group definition packets each corresponding to a specific one of a plurality of return channel groups.

43. The transceiver of claim 42, wherein the transmit frequency is assigned to be in the first return channel group based on a group load factor received in the broadcast signal.

44. The transceiver of claim 42, wherein the transmit frequency is changed to be in a different return channel group based on a group load factor received in the broadcast signal.

45. The transceiver of claim 42, wherein the transmit frequency is changed to a different group of the plurality of return channel groups based on a random weighting factor provided in the broadcast signal.

46. The transceiver of claim 29, wherein the outgoing user message is encrypted.

47. The transceiver of claim 29, wherein the outgoing user message is compressed in accordance with a lossless compression standard.

48. The transceiver of claim 29, wherein the outgoing user message is transmitted on a lossless return channel.

49. The transceiver of claim 29, wherein the outgoing user message is modulated on the transmit frequency using a QPSK modulation scheme.

50. The transceiver of claim 49, wherein the QPSK modulation scheme is an Offset-QPSK (OQPSK) scheme.

51. The transceiver of claim 29, wherein the outgoing user message is limited to a maximum bandwidth by the control node.

52. The transceiver of claim 29, wherein the outgoing user message is in an ALOHA burst format.

53. The transceiver of claim 52, wherein the ALOHA burst transmits the outgoing user message at least twice.

54. The transceiver of claim 52, wherein the ALOHA burst is retransmitted a maximum number of times indicated by a message received in the broadcast signal.

55. The transceiver of claim 52, wherein the outgoing user message contains a bandwidth allocation request.

56. The transceiver of claim 52, wherein the ALOHA burst is a slotted-ALOHA burst aligned with the transmit frame start time.

57. The transceiver of claim 52, wherein the outgoing user message has a size less than a predetermined threshold value.

58. A method for controlling a return channel from a control station, comprising:

transmitting a broadcast signal;

receiving a return channel uplink from a remote user; and

setting a return channel bandwidth with a return channel controller which provides a bandwidth allocation message in the broadcast signal.

59. The method of claim 58, further comprising demodulating the received return channel uplink with a burst channel demodulator controlled by the return channel controller.

60. The method of claim 58, wherein the return channel bandwidth is set by evaluating a backlog indicator provided by the remote user in a return channel message.

61. The method of claim 60, wherein the return channel controller allocates bandwidth if the backlog indicator is greater than a threshold value.

62. The method of claim 60, wherein the return channel uplink is an ALOHA-type burst message.

63. The method of claim 62, wherein the ALOHA-type burst message is a slotted-ALOHA message.

64. The method of claim 58, wherein the broadcast signal is an asynchronous DVB transport stream.

65. The method of claim 58, wherein the return channel uplink is a TDMA signal.

66. The method of claim 58, wherein the return channel controller controls a frequency of the return channel uplink through an assignment message provided to the remote user through the broadcast signal.

67. The method of claim 66, wherein the return channel controller changes the frequency of the return channel uplink from a first frequency to a second frequency, said first and second frequencies each being within a first return channel group.

68. The method of claim 66, wherein the return channel controller changes the frequency of the return channel uplink from a first frequency to a second frequency, said first and second frequencies being within a first return channel group and a second return channel group, respectively.

69. The method of claim 58, wherein the return channel bandwidth is set in accordance with a bandwidth allocation request received in the return channel uplink.

70. The method of claim 69, wherein the return channel controller assigns periodic bandwidth to the remote user.

71. The method of claim 70, wherein the return channel controller assigns a stream bandwidth to the remote user.

72. The method of claim 71, wherein the return channel controller assigns a dedicated return channel uplink frequency to the remote user.

73. The method of claim 58, further comprising:

receiving a plurality of return channel uplinks from a plurality of remote users; and

setting a return channel bandwidth for each of the plurality of return channel uplinks with the return channel controller.

74. The method of claim 73, wherein the return channel controller controls a frequency of each of the plurality of return channel uplinks through an assignment message.

75. The method of claim 73, wherein setting a return channel bandwidth for each of the plurality of return channel uplinks includes predicting a return channel traffic load.

76. The method of claim 73, wherein a return channel bandwidth for a portion of the plurality of return channel uplinks is set using a predicted return channel traffic load, and a return channel bandwidth for at least one of the plurality of return channel uplinks is set based upon a bandwidth allocation request transmitted on said at least one of the plurality of return channel uplinks.

77. The method of claim 73, wherein setting a return channel frequency for each of the plurality of return channel uplinks is based on evaluating a traffic load for each of the plurality of return channel uplinks.

78. The method of claim 73, wherein a group load factor for each of a plurality of return channel groups is periodically transmitted in the broadcast signal.

79. The method of claim 78, wherein a frequency for each of the plurality of return channel uplinks is determined by a corresponding group load factor.

80. The method of claim 78, wherein a bandwidth for each of the plurality of return channel uplinks is determined by a corresponding group load factor.

81. The method of claim 73, wherein setting a return channel group for each of the plurality of return channel uplinks is based on evaluating a traffic load for each of a plurality of return channel groups.

82. A method for transmitting a frame synchronized message, comprising:

receiving a control node timing message in a broadcast signal;

determining a return channel frame start time using the control node timing message;

storing an outgoing user message; and

transmitting the outgoing user message during an assigned period after the return channel frame start time, wherein a transmit frequency is determined by an assignment message received in the broadcast signal.

83. The method of claim 82, further comprising evaluating the stored outgoing user message and transmitting a traffic backlog indicator.

84. The method of claim 82, wherein said assignment message is associated with a first return channel group, and said transmit frequency is in said first return channel group.

85. The method of claim 84, wherein the transmit frequency is changed to a different transmit frequency in the first return channel group based on said assignment message.

86. The method of claim 84, wherein the transmit frequency is changed to a different transmit frequency based on a traffic load factor.

87. The method of claim 82, wherein the transmit frequency is changed from a first return channel group to a different transmit frequency in a second return channel group.

88. The method of claim 82, further comprising changing the transmit frequency to a different transmit frequency based on a random weighted frequency selection based on a traffic load factor.

89. The method of claim 82, further comprising monitoring a previous return channel group and a current return channel group after the transmit frequency has been assigned to the current return channel group.

90. The method of claim 82, wherein the transmit frequency is changed to a different transmit frequency a predetermined number of frames after receiving the assignment message.

91. The method of claim 82, wherein the assigned period is determined by a bandwidth allocation message received in the broadcast signal.

92. The method of claim 82, wherein transmitting the outgoing user message includes transmitting an ALOHA burst message.

93. The method of claim 92, wherein the ALOHA burst transmits the outgoing user message at least twice.

94. The method of claim 93, wherein the ALOHA burst is transmitted a maximum number of times as indicated by a message transmitted in the broadcast signal.

95. The method of claim 92, wherein the ALOHA burst message includes a bandwidth allocation request.

96. The method of claim 82, further comprising encrypting the outgoing user message.

97. The method of claim 82, wherein the outgoing user message is transmitted in a TDMA format.

98. The method of claim 97, wherein transmitting the outgoing user message includes transmitting a slotted ALOHA burst message aligned with the return channel frame start time.

99. The method of claim 97, wherein the assigned period includes at least one time slot after the return channel frame start time as

determined by a bandwidth allocation message received in the broadcast signal.

100. The method of claim 82, further comprising compressing the outgoing user message using a lossless compression standard.

101. The method of claim 82, wherein transmitting the outgoing user message includes modulating the transmit frequency using a QPSK modulation scheme.

102. The method of claim 82, further comprising limiting the outgoing user message to a maximum bandwidth less than a stream bandwidth.

103. A communication system for balancing traffic on a plurality of return channels, comprising:

a control station to transmit a broadcast signal to a remote user,

said broadcast signal including a non-real time frame marker, a timing message, and a return channel control message;

a receiver at the remote user to receive the broadcast signal and determine a return channel frame start time using the non-real time frame marker and the timing message; and

a transmitter at the remote user to uplink a user message on one return channel of the plurality of return channels during a predetermined period after the return channel frame start time, wherein an uplink frequency of said one return channel is determined by the return channel control message.

104. The communication system of claim 103, wherein a bandwidth of said one return channel is determined by the return channel control message.

105. The communication system of claim 103, further comprising a return channel controller in the control station, said return channel controller providing the return channel control message.

106. The communication system of claim 105, wherein the return channel controller further provides a bandwidth allocation message in the broadcast signal which sets a bandwidth of said one return channel.

107. The communication system of claim 106, wherein the bandwidth of said one return channel is set based on a predicted load factor.

108. The communication system of claim 105, wherein the bandwidth of said one return channel is set by evaluating a user backlog indicator transmitted by the remote user to the control station.

109. The communication system of claim 108, wherein the bandwidth of said one return channel is set to a stream bandwidth.

110. The communication system of claim 108, wherein the uplink frequency of said one return channel is set to a dedicated frequency based on an evaluation of the user backlog indicator.

111. The communication system of claim 105, wherein the return channel controller changes the uplink frequency to a different frequency within a first return channel group.

112. The communication system of claim 105, wherein the return channel controller changes the uplink frequency to a different frequency within a second return channel group.

113. The communication system of claim 112, wherein the return channel controller changes the uplink frequency to a different frequency based on a system load factor.

114. The communication system of claim 103, wherein a bandwidth of said one return channel is determined by a bandwidth allocation request included in the user message uplinked by the remote user.

115. The communication system of claim 114, wherein the user message is an ALOHA-type burst transmission.

116. The communication system of claim 115, wherein the user message includes the bandwidth allocation request and an additional user message, said additional user message having a size less than a predetermined threshold size.

117. The communication system of claim 103, wherein said broadcast signal is an asynchronous DVB transport stream.

118. The communication system of claim 103, further comprising a plurality of remote users sharing the plurality of return channels and a return channel controller, wherein the return channel controller controls the uplink frequency of each of the plurality of return channels through the return channel control message.

119. The communication system of claim 118, wherein said return channel controller controls a bandwidth allocation for each of the plurality of return channels.

120. The communication system of claim 118, wherein a subset of the plurality of return channels are ALOHA burst channels, and wherein said return channel controller shifts a remote user uplink from an ALOHA burst channel to a non-ALOHA burst channel in accordance with the return channel control message.

121. The communication system of claim 120, wherein the ALOHA burst channel is selected from the subset of the plurality of return channels by the remote user using a random weighted frequency selection criteria.

122. The communication system of claim 120, wherein said non ALOHA burst channel is selected by the control station using a group load factor.

123. The communication system of claim 103, wherein said broadcast signal is encapsulated in an IP/DVB protocol layer.

124. The communication system of claim 103, further comprising a communication satellite to relay the transmitted broadcast signal to the receiver.

125. A method for balancing loads among and between groups of return channels in a communication system, comprising:

requesting return channel bandwidth in an uplink message from a remote user to a control station, said uplink message including a backlog indicator;

allocating at least a return channel bandwidth for the remote user by processing the backlog indicator;

providing a channel allocation message from the control station to the remote user in a broadcast signal, wherein the channel allocation message at least allocates the return channel bandwidth; and

transmitting a user message on a return channel in accordance with the channel allocation message.

126. The method of claim 125, further comprising allocating a return channel uplink frequency.

127. The method of claim 126, wherein allocating the return channel uplink frequency includes changing an uplink frequency from a first frequency to a second frequency.

128. The method of claim 127, wherein the uplink frequency is changed to balance a traffic load between the groups of return channels.

129. The method of claim 127, wherein the uplink frequency is changed based on a group load factor.

130. The method of claim 127, wherein the first frequency and the second frequency are assigned to a first return channel group.

131. The method of claim 127, wherein the first frequency and the second frequency are assigned to a first return channel group and a second return channel group, respectively.

132. The method of claim 126, wherein allocating the return channel uplink frequency includes frequency hopping an uplink frequency between a predetermined number of uplink frequencies in accordance with a dynamic system traffic load.

133. The method of claim 132, wherein allocating the return channel uplink frequency by frequency hopping further depends on a plurality of backlog indicators from a plurality of remote users.

134. The method of claim 132, wherein the predetermined number of uplink frequencies are assigned to a return channel group.

135. The method of claim 132, wherein frequency hopping balances a traffic load within a first return channel group.

136. The method of claim 125, wherein requesting return channel bandwidth includes transmitting an ALOHA burst transmission from the remote user.

137. The method of claim 125, wherein the return channel bandwidth is allocated to at least allow a user message smaller than a predetermined threshold size to be uplinked.

138. The method of claim 125, wherein a portion of available return channels are ALOHA-burst return channels.

139. The method of claim 125, wherein the control station periodically transmits a group load factor for each of the groups of return channels.

140. The method of claim 125, wherein requesting return channel bandwidth includes transmitting a first ALOHA-type burst transmission from the remote user on an ALOHA channel .

141. The method of claim 125, further comprising the remote user selecting the return channel from one of the groups of return channels by using a random weighting factor based on a system traffic load.